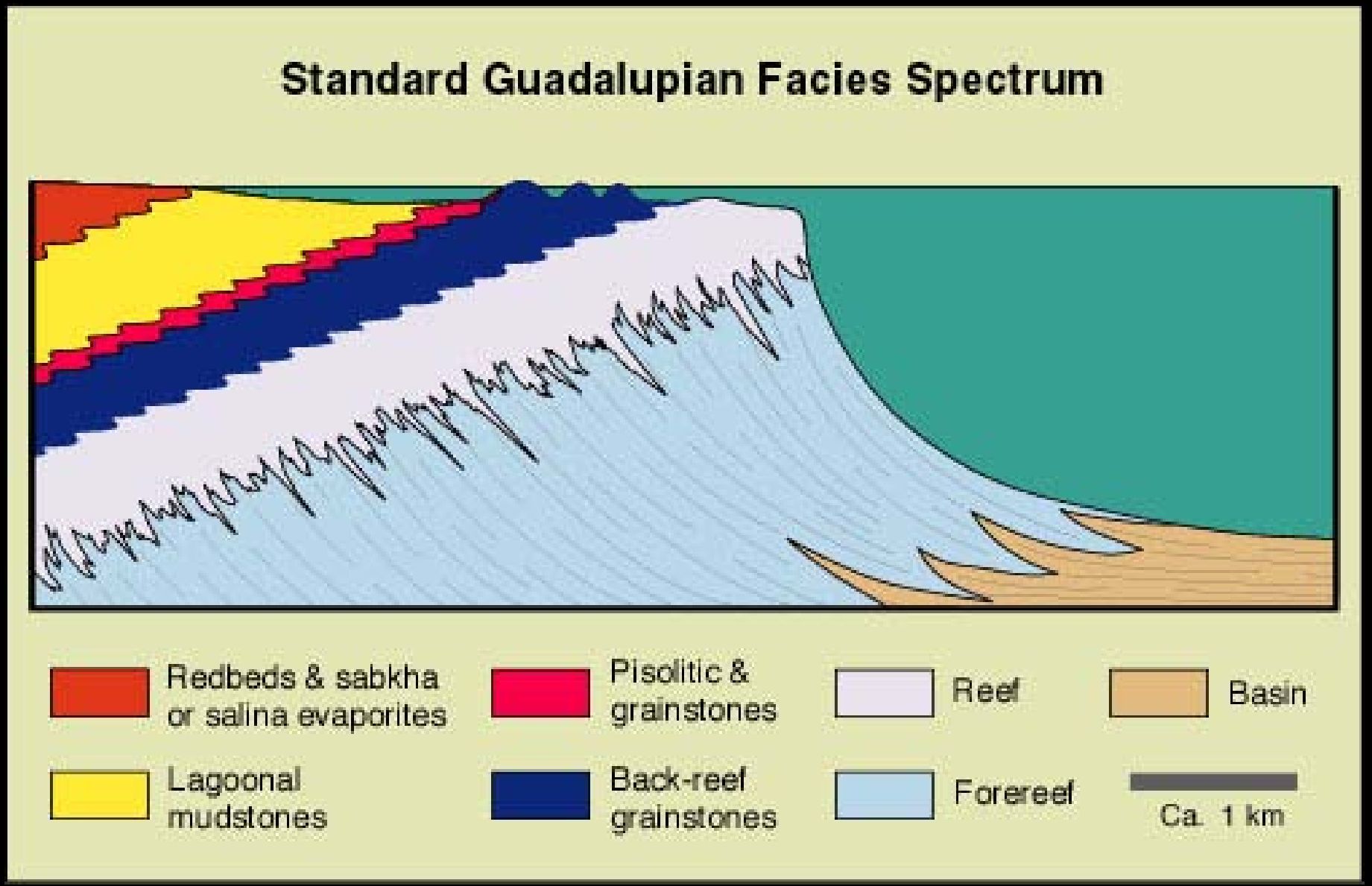


Image from P. Schole at New Mexico School of Technology: http://geoinfo.nmt.edu/staff/scholle/guadalupe.html

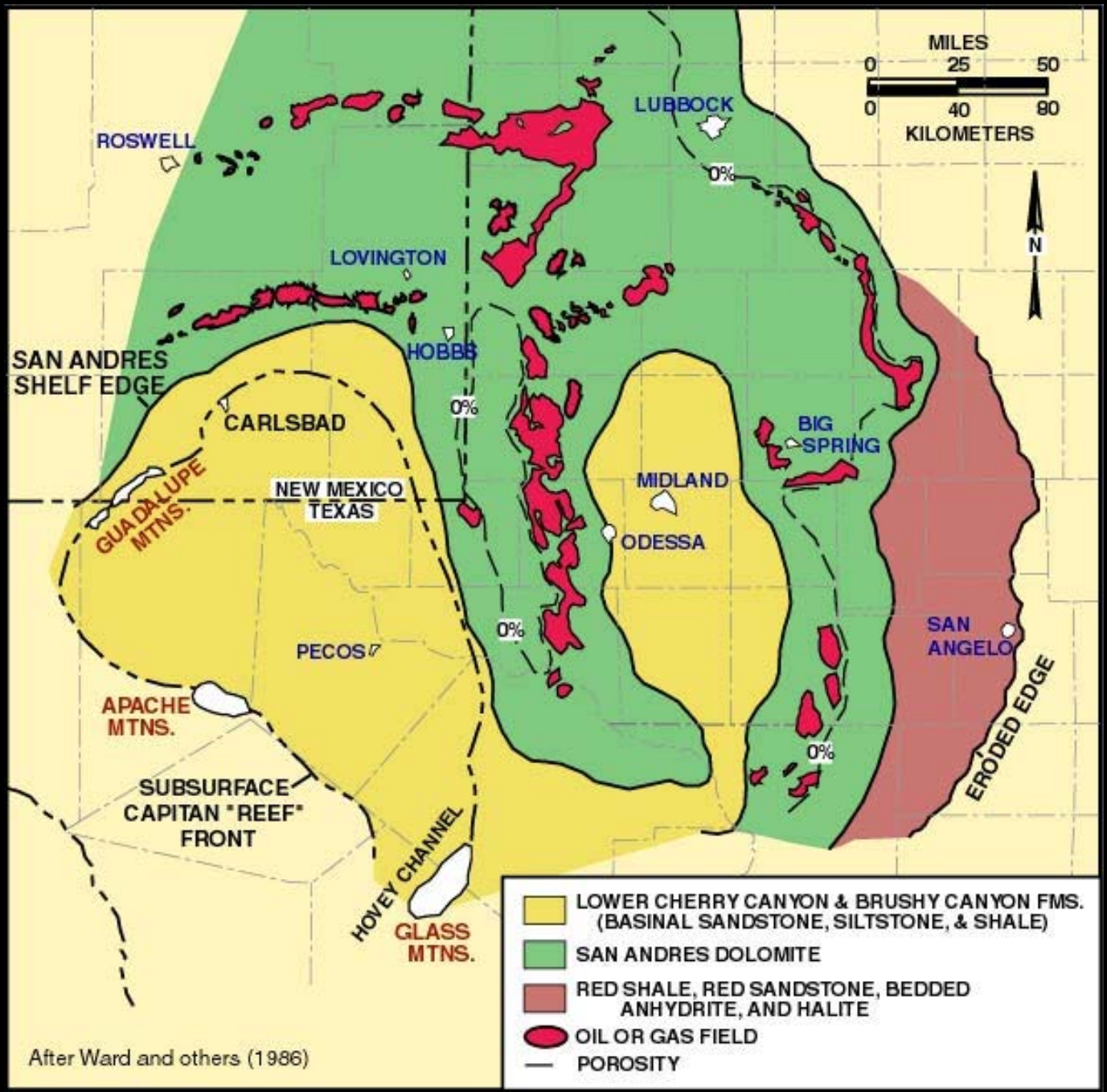


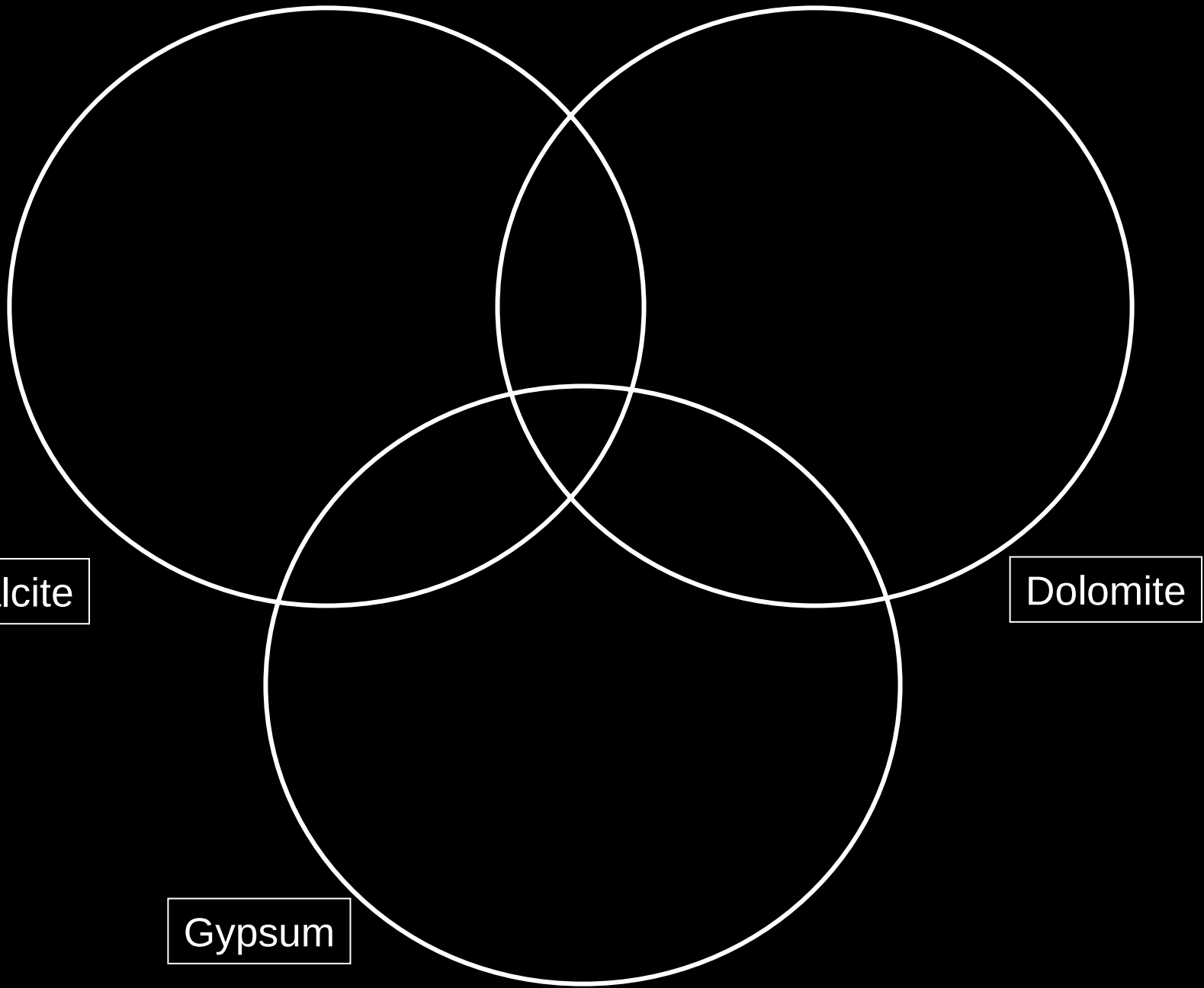
Image from P. Scholle at New Mexico School of Technology:
http://geoinfo.nmt.edu/staff/scholle/guadalupe.html

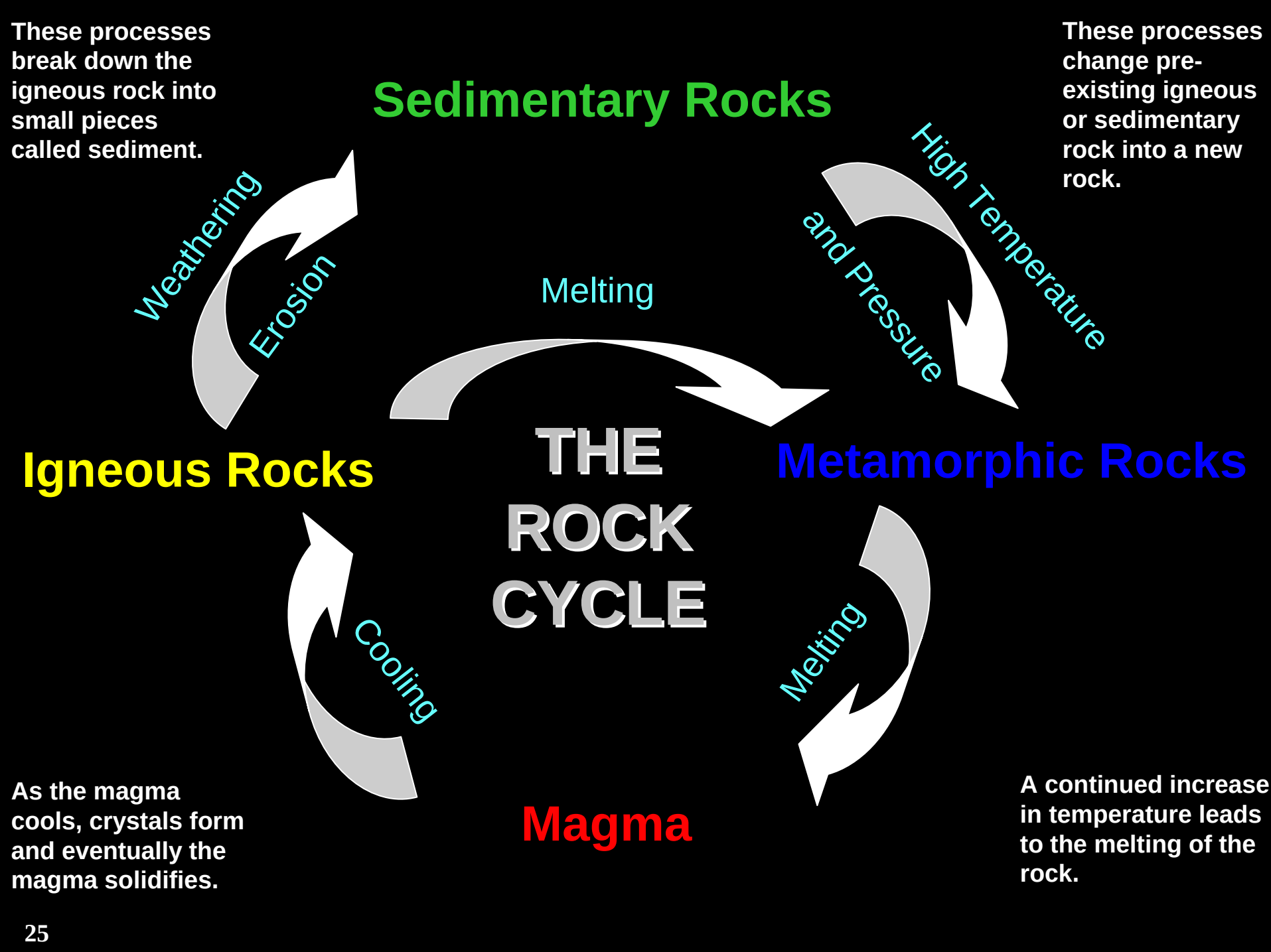
Mineral Identification Chart

Initial Characteristics | **Mineral Names and other Features**

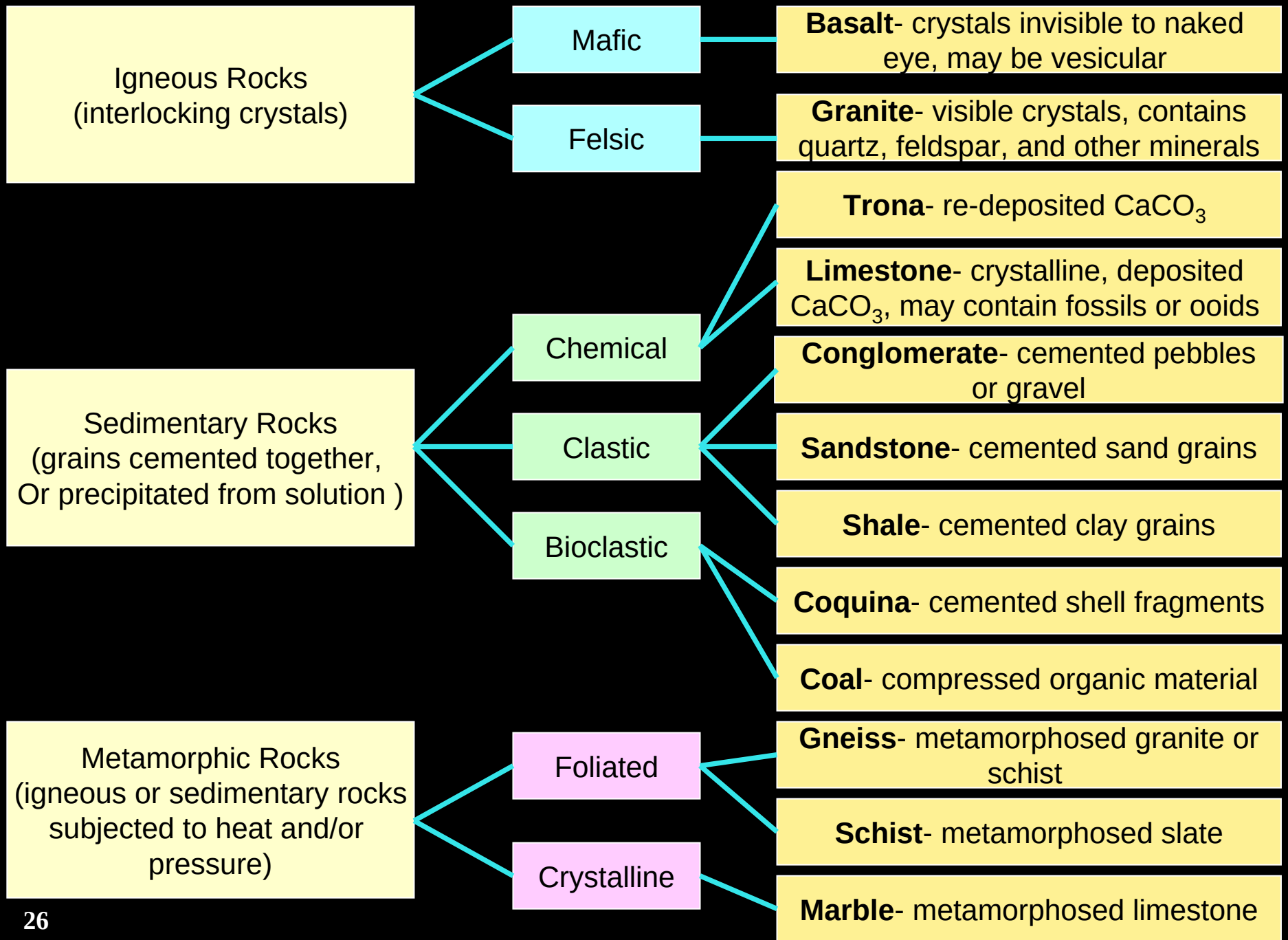
- Metallic
  - Nonmagnetic
    - Gold/bronze colored
      - **Pyrite** (Fool's Gold, FeS_2)- black striations
- Nonmetallic
  - Softer than fingernail
    - Good cleavage
      - Splits into paper-like sheets
        - **Gypsum** (Used in drywall, $CaSo_4$- $2H_2O$) -usually clear
  - Softer than glass; harder than fingernail
    - Good cleavage
      - Splits into paper-like sheets
        - **Muscovite Mica** (KAl2(AlSi3O10)(F, OH)2) - transparent sheets
      - Reacts with HCl
        - **Calcite** ($CaCO_3$; found in limestone and shells) -rhombohedral crystals
      - Powder reacts with HCl
        - **Dolomite** ($CaMg(CO_3)_2$) -may occur as rhombus shapes
      - Salty taste
        - **Halite** (NaCl; common table Salt)- transparent or translucent
  - Harder than glass
    - Good cleavage
      - **Orthoclase** ($AlSiO_2$; potassium Feldspar)- usually pinkish
    - No cleavage
      - **Quartz** (Sio_2)- may be clear, Pink, smoky, or purple

Venn Diagram for Minerals




These processes break down the igneous rock into small pieces called sediment.
Sedimentary Rocks
These processes change pre-existing igneous or sedimentary rock into a new rock.
Weathering
Erosion
Melting
High Temperature and Pressure
Igneous Rocks
THE ROCK CYCLE
Metamorphic Rocks
Cooling
Melting
Magma
As the magma cools, crystals form and eventually the magma solidifies.
A continued increase in temperature leads to the melting of the rock.

Rock Identification Chart



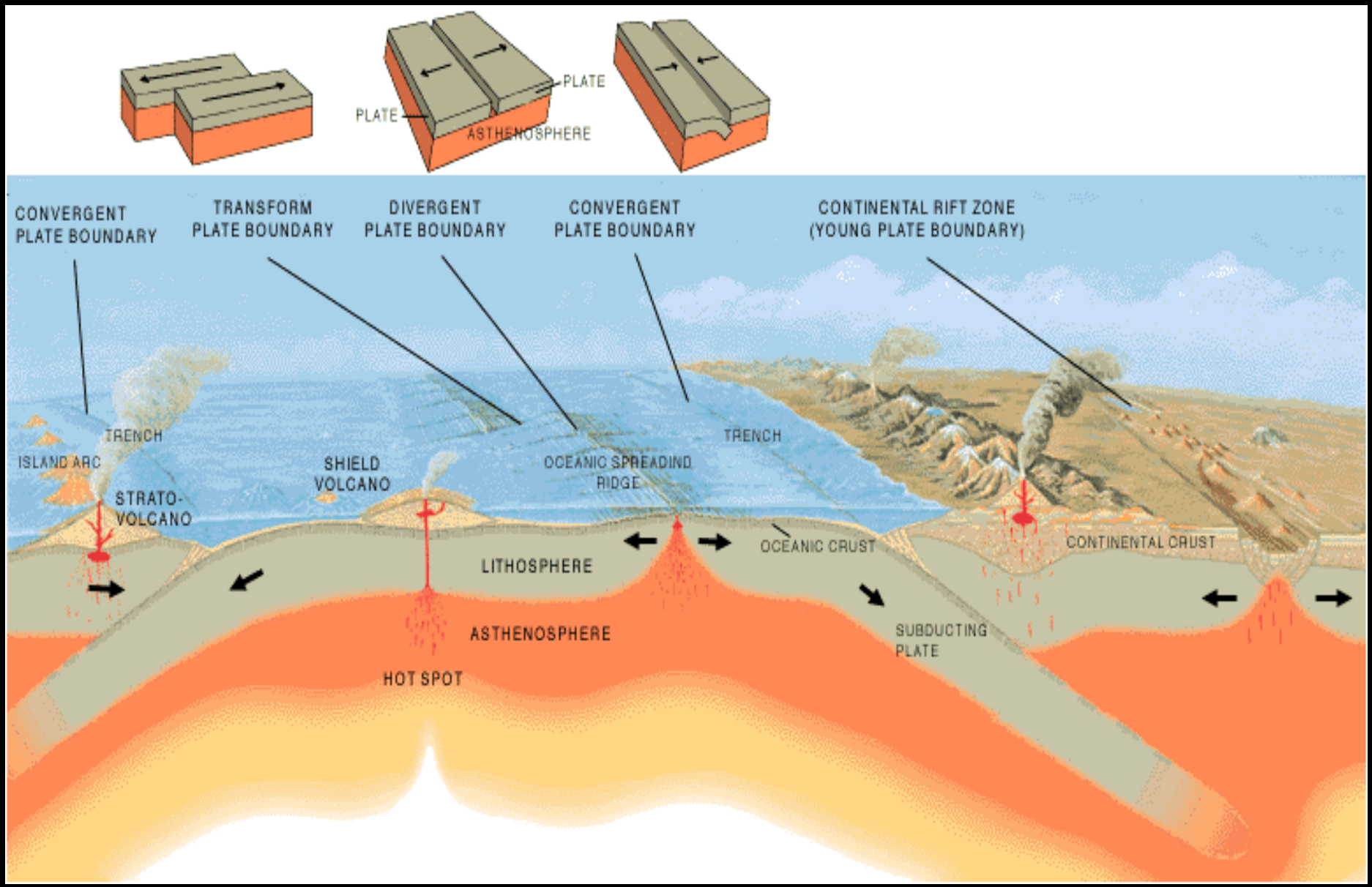


Diagram from USGS Education and Outreach web page
http://geology.er.usgs.gov/eastern/tectonic.html

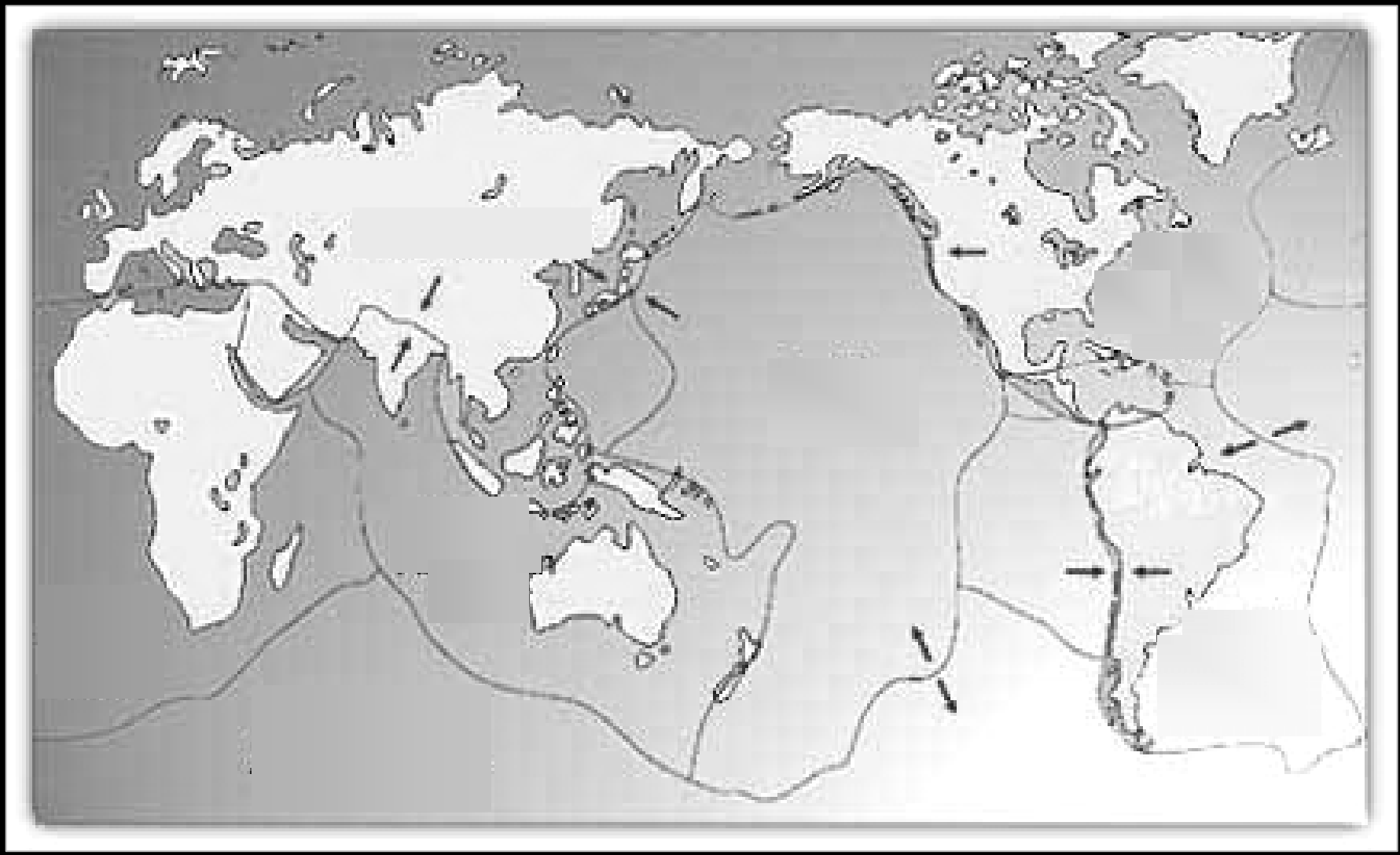


Diagram modified from Think Quest's Plate Tectonics web page
http://library.thinkquest.org/17457/platetectonics/index.php

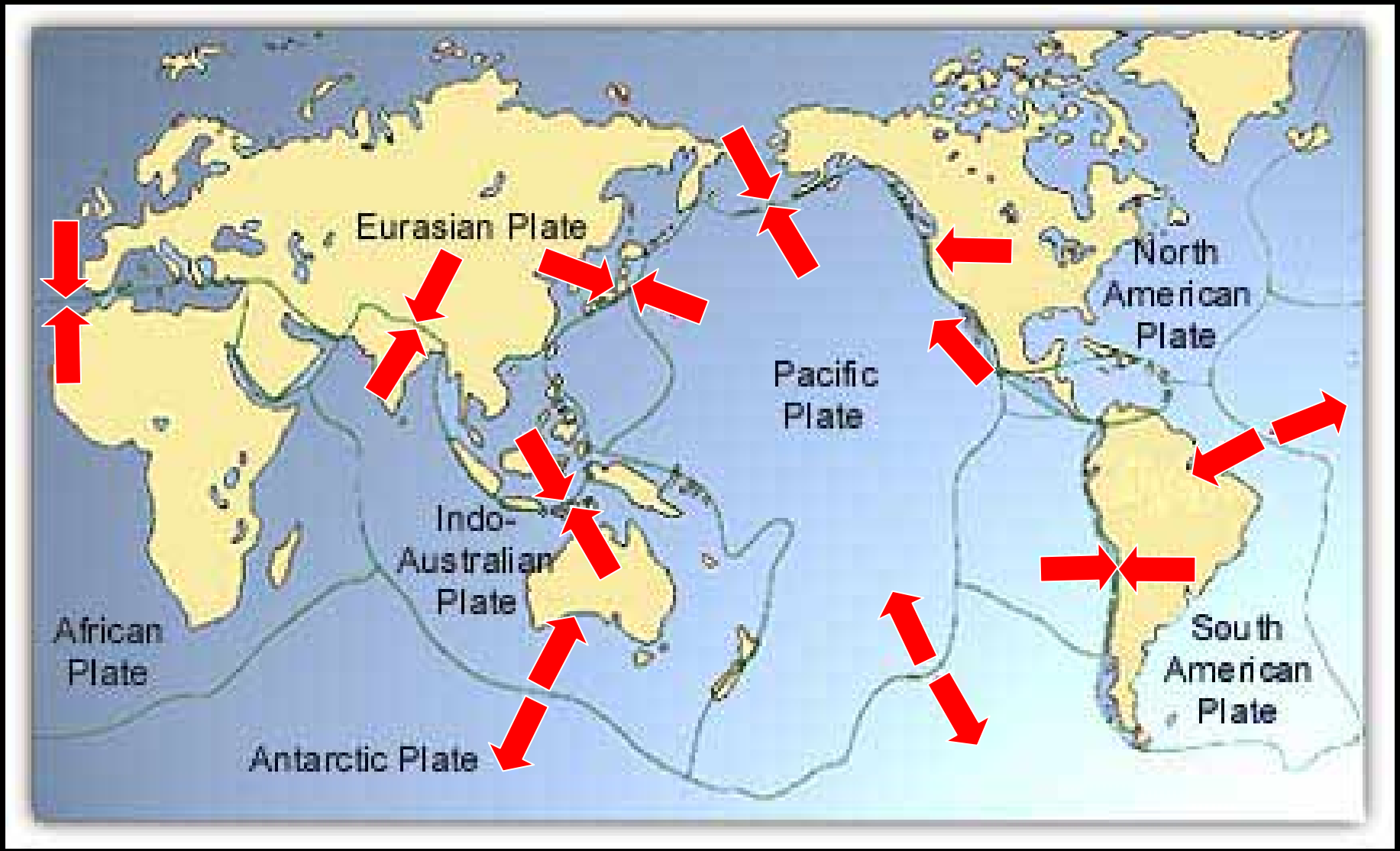
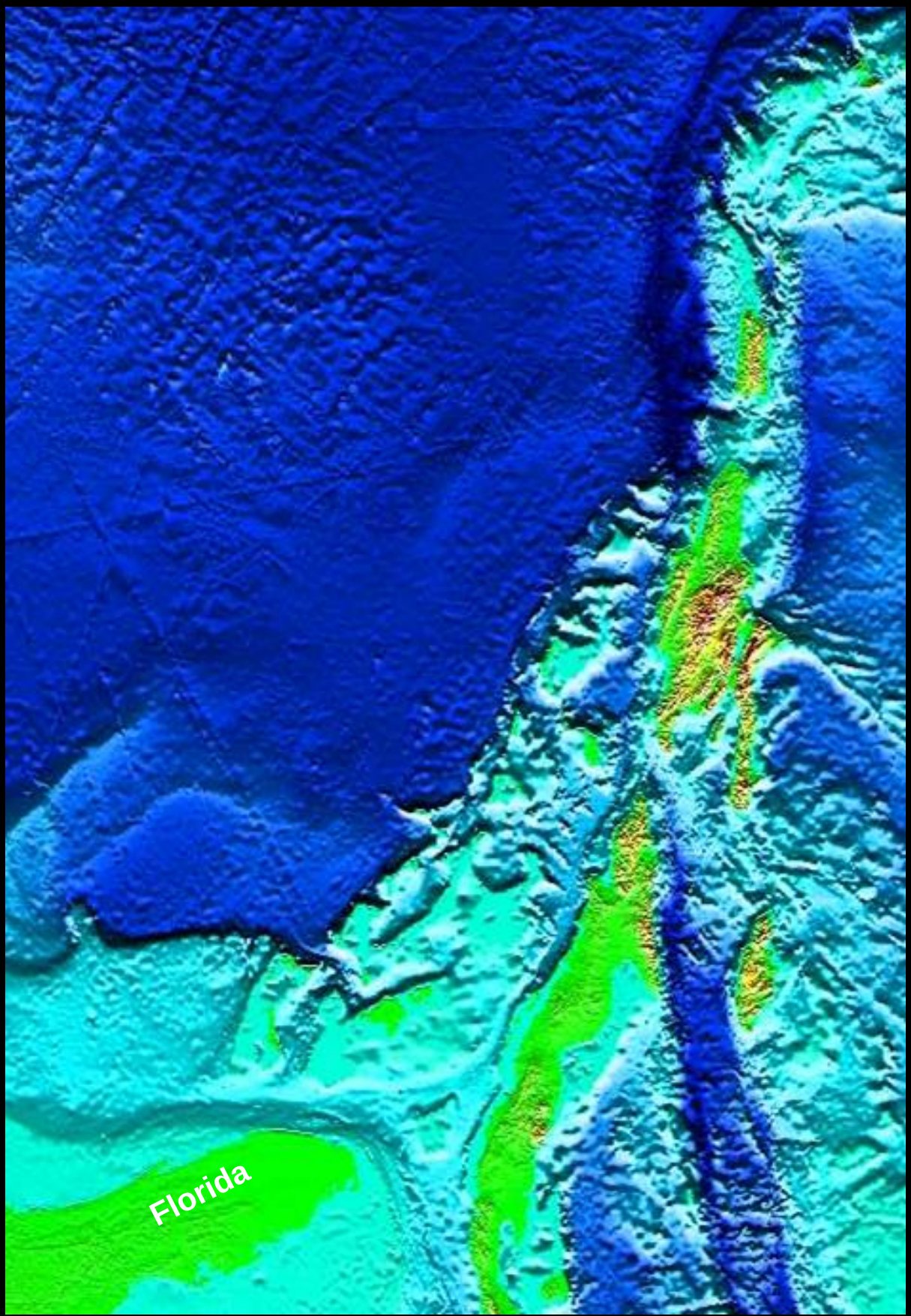
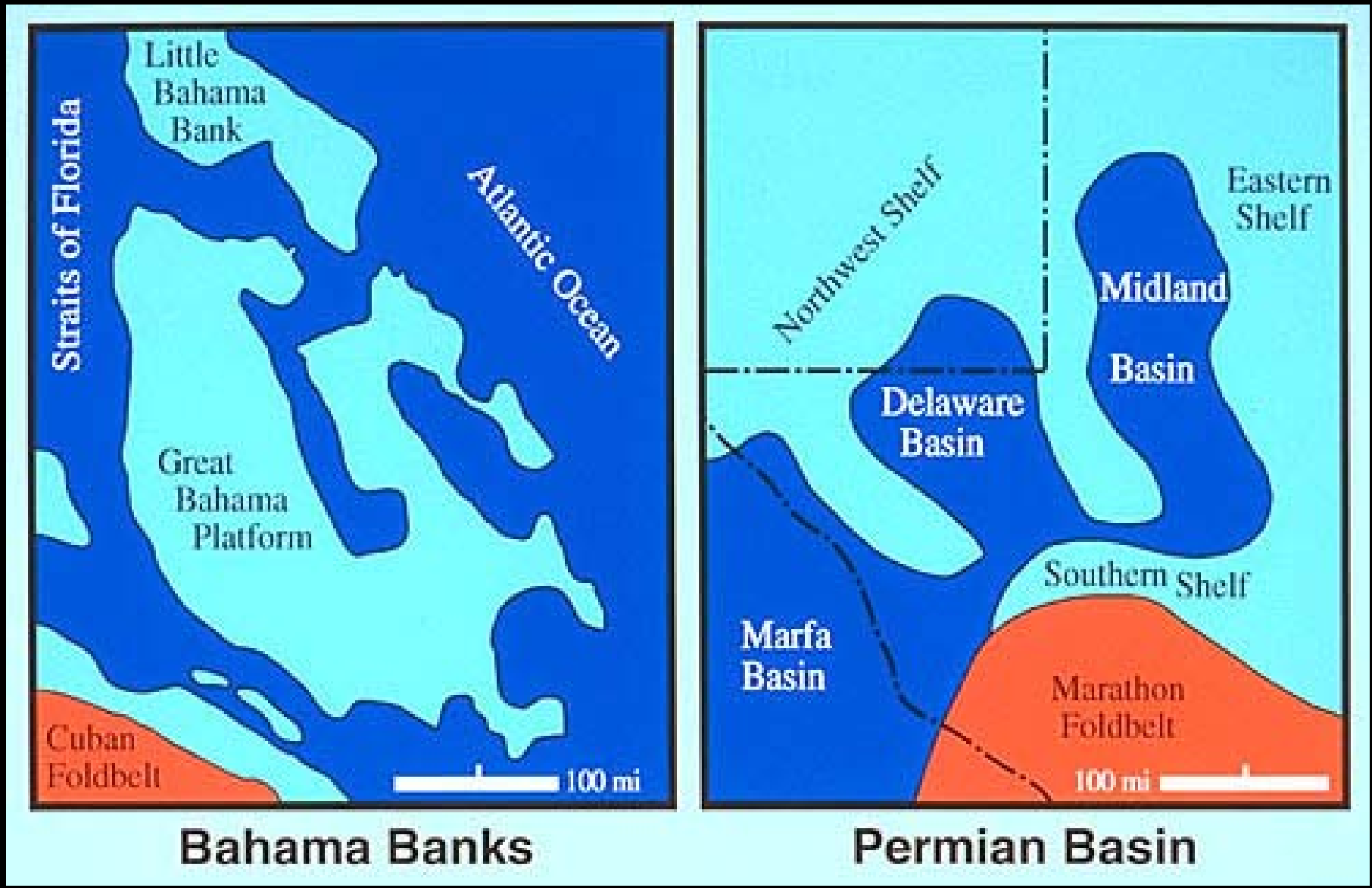


Diagram from Think Quest's Plate Tectonics web page
http:///library.thinkquest.org/17457/platetectonics/index.php

Bathymetry from NOAA's imagery website:
http://www.ngdc.noaa.gov/mgg/image/2minsurface/45N090W.html





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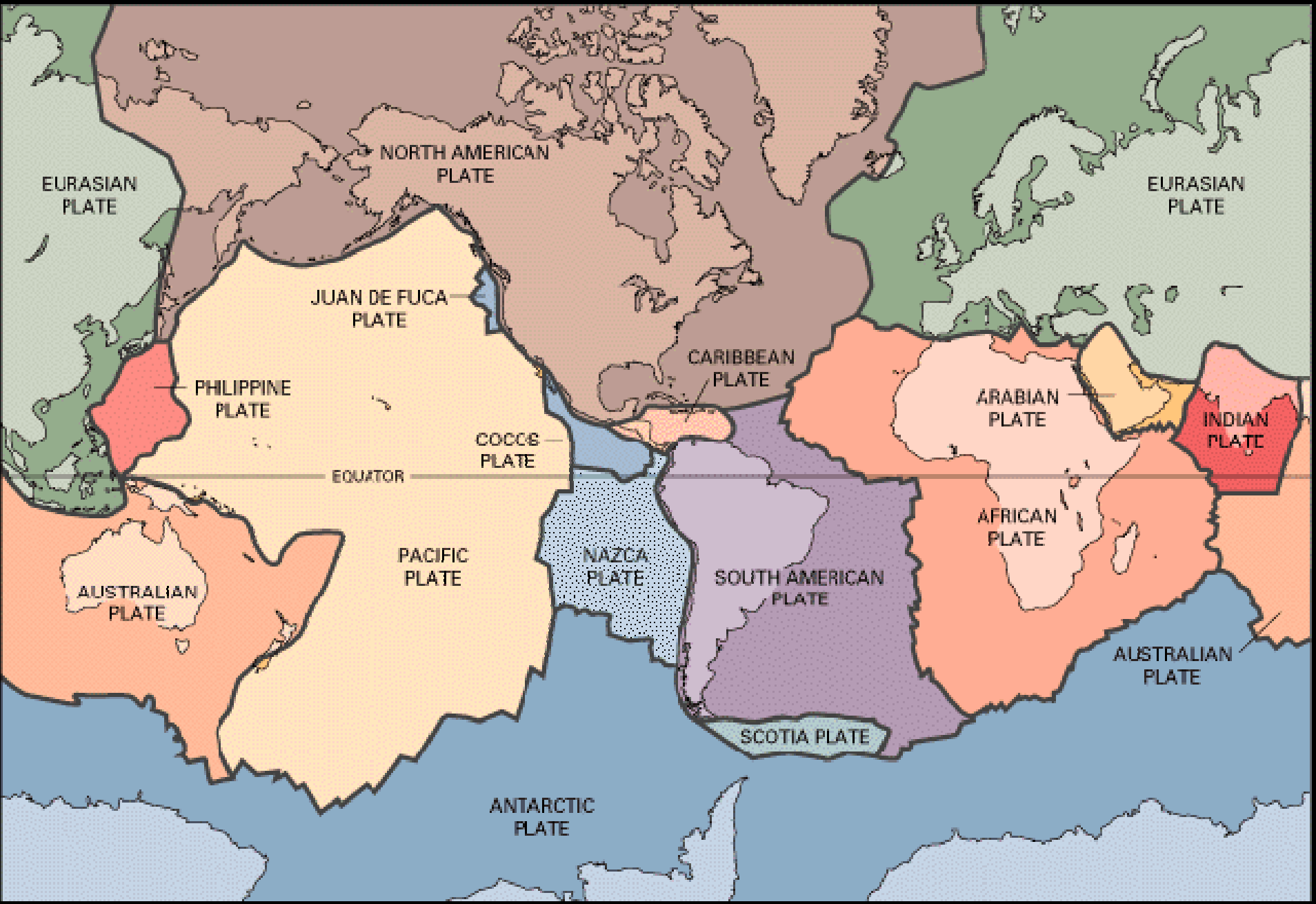


Diagram from USGS Education and Outreach web page
http://geology.er.usgs.gov/eastern/plates.html

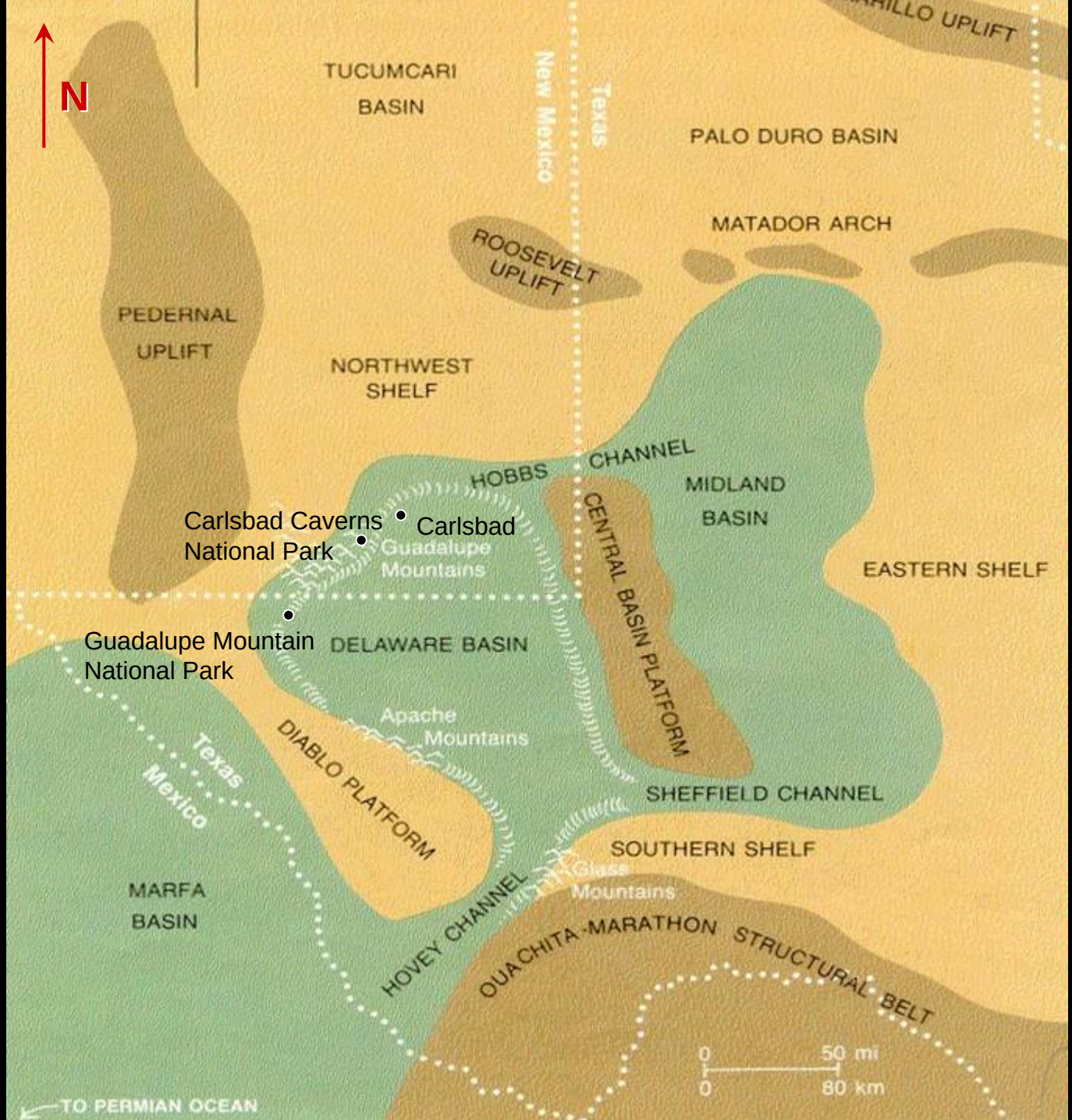


Photo courtesy of T. Firkins' "Geology 101" Interpretive program

Photo from Northern Michigan Permian website
http://seaborg.nmu.edu/earth/Permian.html

Univ. of Michigan Exhibit Museum of Natural History -- Life Through the Ages Diroama

Photos from NOAA's Coral Reef Online website http://www.coralreef.noaa.gov/

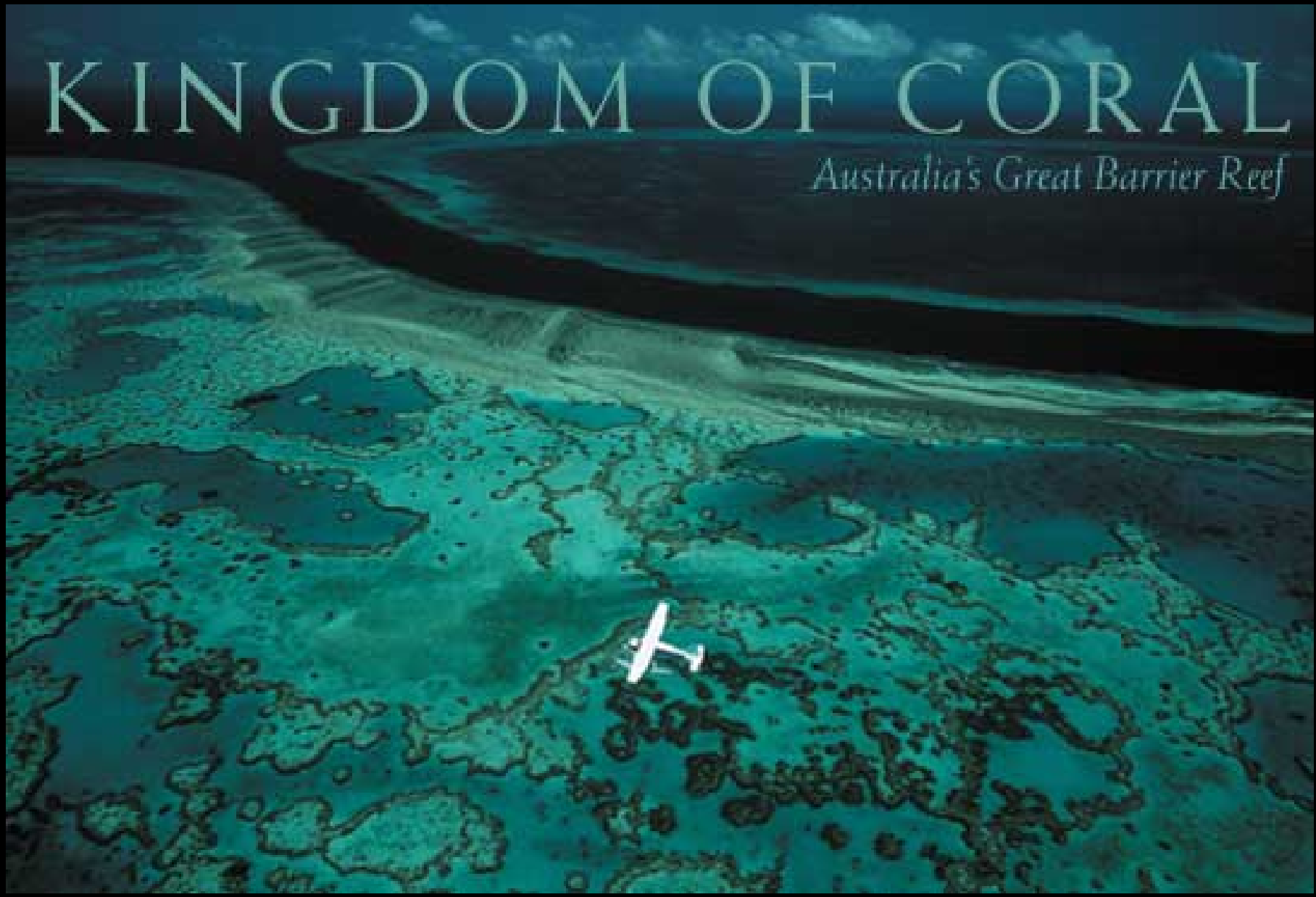


Photo by David Doubilet on National Geographic Magazine's Online website
http://www.nationalgeographic.com/ngm/0101/feature2/index.html

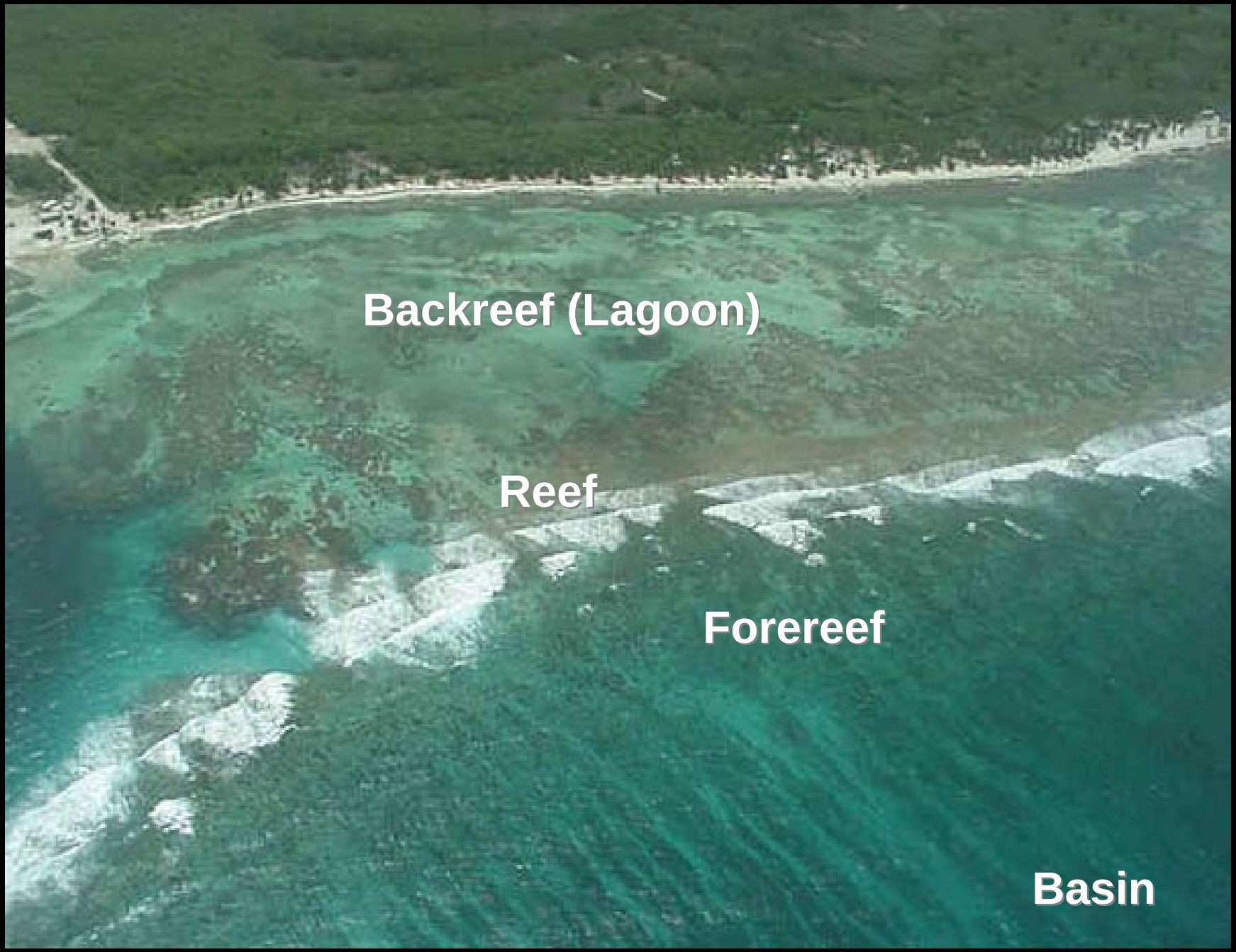


Photo courtesy of T. Firkins' "Geology 101" Interpretive program

Geology of Carlsbad Caverns National Park

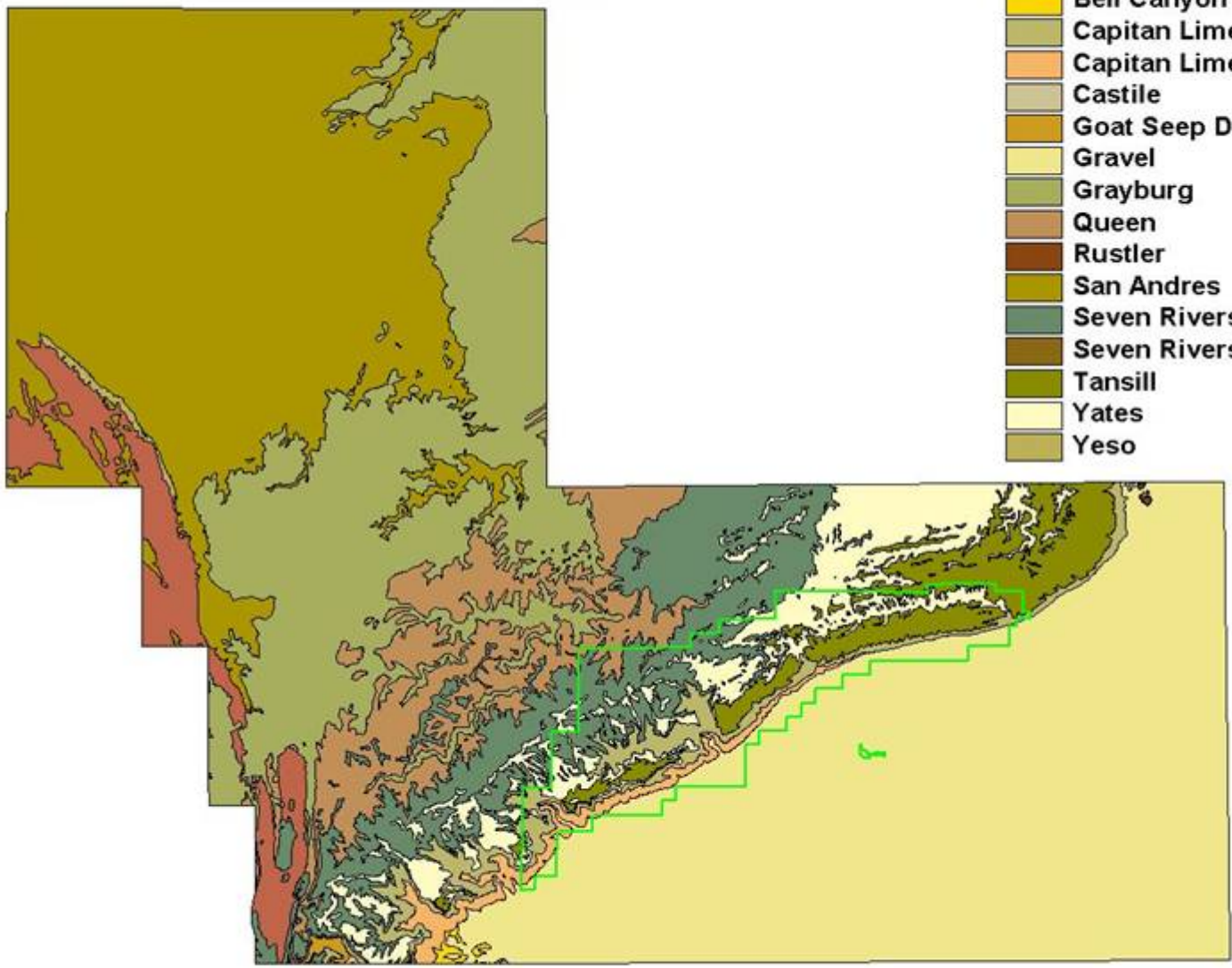
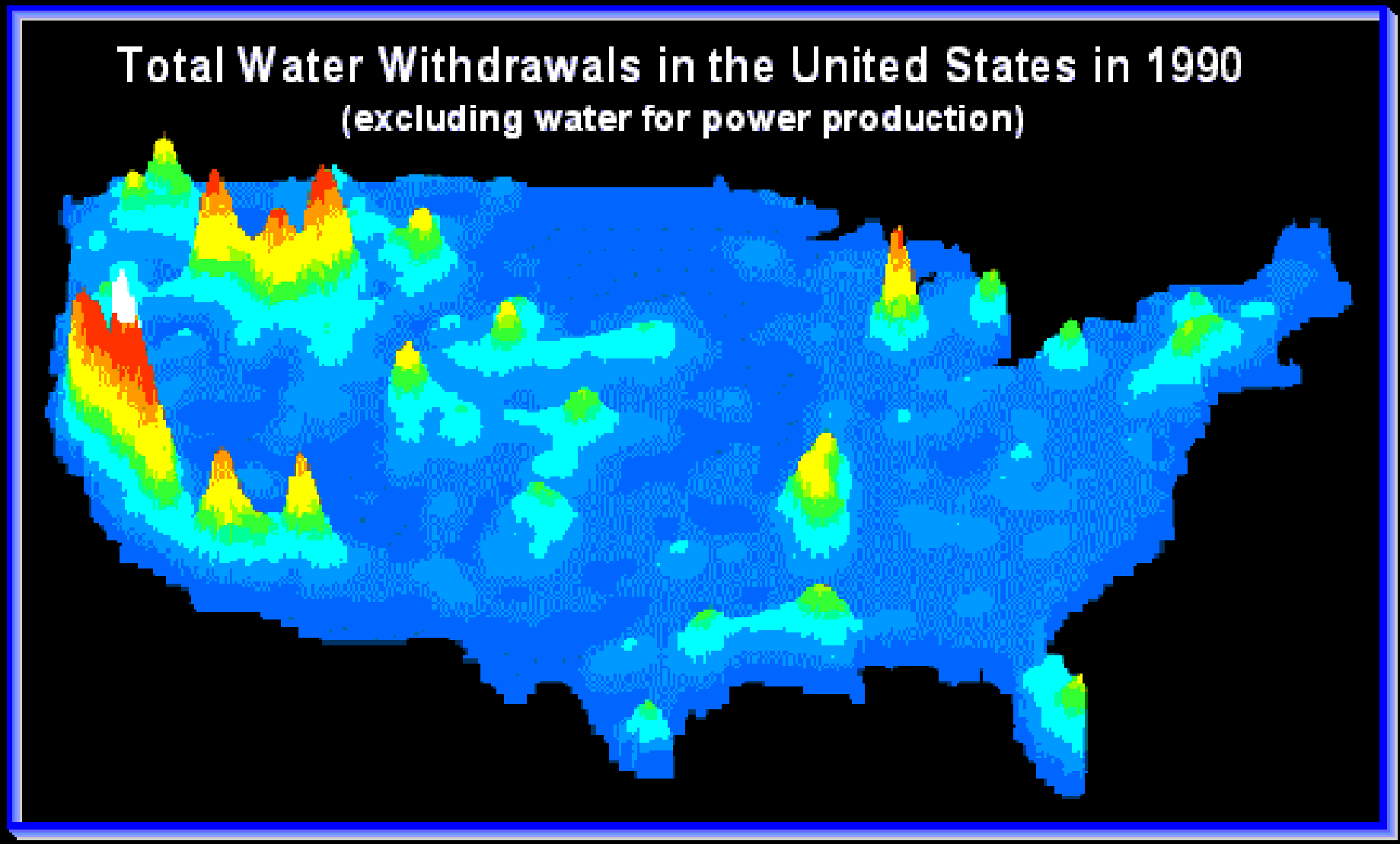


Photo courtesy of T. Firkins' "Geology 101" Interpretive program



Warm colors to white indicates the greatest amount of water withdrawal; cool, dark colors indicate the least.

Image from the EPA's "Water Atlas" web site
http://www.epa.gov/ceisweb1/ceishome/atlas/nationalatlas/wateratlas.html